

EXHIBIT 9

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

BEARBOX LLC AND AUSTIN
STORMS,

Plaintiffs,

v.

LANCIUM LLC, MICHAEL T.
MCNAMARA,

AND RAYMOND E. CLINE, JR.,
Defendants.

§
§
§
§
§
§
§
§
§
§

CIVIL ACTION 1:21-cv-00534-MN-CJB

Reply Expert Report of Dr. Stan McClellan

May 20, 2022

(SOURCE CODE – OUTSIDE ATTORNEYS EYES ONLY –
RESTRICTED HIGHLY CONFIDENTIAL)

SOURCE CODE – OUTSIDE ATTORNEYS EYES ONLY –
RESTRICTED HIGHLYCONFIDENTIAL

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	MY COMMENTS ON THE EXPERT REPORT OF MARK EHSANI, PH.D.	2
A.1.	Level of Ordinary Skill in the Art.....	2
A.2.	Claim Construction of Certain Terms in the '433 patent	2
A.3.	Lancium's Alleged Conception of the Inventions Described in the '433 Patent	2
A.4.	Messrs. McNamara and Cline Are Not The Sole Inventors of the '433 Patent.....	7
A.4.i.	Claim 1.....	7
A.4.ii.	Claim 2.....	10
A.4.iii.	Claim 3.....	11
A.4.iv.	Claim 4.....	11
A.4.v.	Claim 5.....	12
A.4.vi.	Claim 6.....	12
A.4.vii.	Claim 7.....	13
A.4.viii.	Claim 8.....	13
A.4.ix.	Claim 9.....	14
A.4.x.	Claim 10.....	14
A.4.xi.	Claim 11.....	15
A.4.xii.	Claim 12.....	15
A.4.xiii.	Claim 13.....	16
A.4.xiv.	Claim 14.....	16
A.4.xv.	Claim 15.....	17
A.4.xvi.	Claim 16.....	17
A.4.xvii.	Claim 17.....	18

Bearbox v. Lancium (1:21-cv-00534-MN)

U.S. Patent No. 10,608,433

A.4.xviii.	Claim 18.....	19
A.4.xix.	Claim 19.....	19
A.4.xx.	Claim 20.....	20
A.5.	Bearbox Communicated The Inventions Recited In The Asserted Claims Of The '433 Patent To Lancium	21
A.5.i.	Claim 1.....	25
A.5.ii.	Claim 2.....	28
A.5.iii.	Claim 3.....	28
A.5.iv.	Claim 4.....	29
A.5.v.	Claim 5.....	30
A.5.vi.	Claim 6.....	30
A.5.vii.	Claim 7.....	31
A.5.viii.	Claim 8.....	31
A.5.ix.	Claim 9.....	32
A.5.x.	Claim 10.....	32
A.5.xi.	Claim 11.....	33
A.5.xii.	Claim 12.....	33
A.5.xiii.	Claim 13.....	34
A.5.xiv.	Claim 14.....	34
A.5.xv.	Claim 15.....	35
A.5.xvi.	Claim 16.....	35
A.5.xvii.	Claim 17.....	36
A.5.xviii.	Claim 18.....	37
A.5.xix.	Claim 19.....	38
A.5.xx.	Claim 20.....	38

Bearbox v. Lancium (1:21-cv-00534-MN)

U.S. Patent No. 10,608,433

A.6.	Bearbox Was In Possession of The Inventions Recited in the '433 Patent	39
A.6.i.	Claim 1	41
A.6.ii.	Claim 2	44
A.6.iii.	Claim 3	44
A.6.iv.	Claim 4	45
A.6.v.	Claim 5	46
A.6.vi.	Claim 6	46
A.6.vii.	Claim 7	47
A.6.viii.	Claim 8	47
A.6.ix.	Claim 9	48
A.6.x.	Claim 10	48
A.6.xi.	Claim 11	49
A.6.xii.	Claim 12	49
A.6.xiii.	Claim 13	50
A.6.xiv.	Claim 14	51
A.6.xv.	Claim 15	51
A.6.xvi.	Claim 16	52
A.6.xvii.	Claim 17	53
A.6.xviii.	Claim 18	54
A.6.xix.	Claim 19	55
A.6.xx.	Claim 20	56
A.7.	Conversion and Unjust Enrichment	56
III.	MY COMMENTS ON THE EXPERT REPORT OF NIKOLAUS BAER.	59
A.1.	Mr. Baer's General Statements About The Bearbox Source Code	59
A.2.	Mr. Baer's Comments On My Analysis Of The Bearbox Source Code	62

Bearbox v. Lancium (1:21-cv-00534-MN)

U.S. Patent No. 10,608,433

A.3.	The Bearbox Source Code Demonstrates Storms Possession of the Inventions Recited in the '433 Patent	64
A.3.i.	Claims 2-11, 13-17 and 19	69
A.3.ii.	Claim 12	69
A.3.iii.	Claim 18	69
IV.	CONCLUSION	70

TABLE OF EXHIBITS

Exhibit 1	Information Considered
Exhibit 2	LANCIUM00021635
Exhibit 3	LANCIUM00014475
Exhibit 4	LANCIUM00000050
Exhibit 5	May 9, 2019 email from A. Storms to M. McNamara and attachments (BB00000090-97)
Exhibit 6	LANCIUM00033240
Exhibit 7	Deposition of Austin Storms, dated February 23, 2022
Exhibit 8	Plaintiffs' Objections and Responses to 2nd Set of Request for Admissions (Nos. 34-41)
Exhibit 9	BB10003955
Exhibit 10	Deposition of Raymond E. Cline Jr., Ph.D., dated February 24, 2022
Exhibit 11	BB10000763
Exhibit 12	Deposition of Ben Hakes, dated January 28, 2022
Exhibit 13	Deposition of Dennis Labij, dated March 9, 2022
Exhibit 14	Deposition of Michael T. McNamara, dated February 18, 2022
Exhibit 15	LANCIUM00033065
Exhibit 16	LANCIUM00035821

All exhibits attached to this report are hereby incorporated by reference into this document.

I. INTRODUCTION

[1] My name is Dr. Stan McClellan. I have been retained by Plaintiffs, Bearbox and Austin Storms (collectively “Bearbox”), through its counsel, Marshall Gerstein & Borun, as an independent expert witness in the technology at issue in Bearbox and Austin Storms v. Lancium LLC, Michael T. McNamara, and Raymond E. Cline, Jr, Case No. 1:21-cv-00534-MN-CJB. If called to testify at trial, I expect to provide testimony regarding the matters in this statement.

[2] It is my understanding that in this case Bearbox has accused Lancium, LLC (“Lancium”) of improperly using its intellectual property at least by (1) securing claims 1-20 (“the Asserted Claims”) of U.S. Patent No. 10,608,433 (hereinafter referred to as “the '433 patent”) and (2) misappropriating certain of Bearbox’s other rights relating to power arbitrage.

[3] I have been asked by counsel for Bearbox to evaluate the expert reports of Mark Ehsani, Ph.D and Nikolaus Baer, both dated May 6, 2022 and to comment on their statements therein, including those concerning the report I submitted on April 5, 2022 (“Initial Report”). My qualifications are set forth in my Initial Report.

[4] This report and its exhibits summarize my opinions to date and provide the bases of my opinions regarding the issues identified in the May 6, 2022 expert reports of Mark Ehsani, Ph.D and Nikolaus Baer. The materials I reviewed in connection with forming the opinions expressed in this report are listed in this report and in Exhibit 1, and include among other things the '433 patent, its file history, the cited references, source code produced by Bearbox or otherwise made available by Bearbox, documents produced or otherwise made publicly available by Bearbox and/or Lancium, and both parties responses to discovery. When appropriate, I may cite those documents and things at deposition or trial to further clarify or support any of my opinions. Those citations may extend beyond what I expressly cite in this report.

II. MY COMMENTS ON THE EXPERT REPORT OF MARK EHSANI, PH.D.

[5] The following are my comments on the expert report of Mark Ehsani, Ph.D. dated May 6, 2022.

A.1. Level of Ordinary Skill in the Art

[6] I note that Dr. Ehsani uses a definition for the person of ordinary skill in the art (POSA) in his analysis that differs from mine. Ehsani, ¶¶39-40. My opinions, both those expressed in my Initial Report and those here, would not change if I used Dr. Ehsani's definition of a POSA.

[7] My qualifications and experience exceed those of a person having ordinary skill in the art, using either my definition or Dr. Ehsani's. Based on my qualifications and experience, I am able to opine on the knowledge of a person having ordinary skill in the art.

A.2. Claim Construction of Certain Terms in the '433 patent

[8] I understand that claim terms by default are construed by their plain and ordinary meanings to a person of ordinary skill in the art. For purposes of my analysis, I have applied the plain and ordinary meaning of the claim terms. I reserve the right to supplement my report should Lancium use a different construction, if the Court provides a construction, or the like. I understand that, throughout this case, Lancium has taken the position that claim construction is unnecessary.

A.3. Lancium's Alleged Conception of the Inventions Described in the '433 Patent

[9] In paragraphs 23-37, under the heading "Legal Principles," Dr. Ehsani describes various legal standards. He states in paragraph 21 that he does "not offer opinions on the relevant law in this report because I am not a lawyer." Similarly, I do not offer opinions on the relevant law because I am not a lawyer.

[10] My understanding of the legal standard for determining inventorship is an evaluation of conception, which is the touchstone of invention. Conception is considered the mental part of invention, such as whether the inventor had a definite idea, or particular solution to

a problem. An idea is definite when a person having ordinary skill in the art could construct the invention without unduly extensive research or experimentation. An inventor may prove his conception by his testimony, by corroborating evidence such as documents, or circumstantial evidence. While some form of corroborating evidence is required, an inventor need not corroborate every element of the inventor's story.

[11] In paragraph 45, Dr. Ehsani states, "It is my opinion that Lancium independently developed, conceived, and reduced its technology to practice, including each of the inventions claimed in the '433 patent, and that such development, conception, and reduction to practice did not involve the use of any information allegedly provided to Mr. McNamara by Mr. Storms." I disagree at least for the reasons set forth below.

[12] As an initial matter, I note that Dr. Ehsani does not rely on the deposition testimony of or any other discussions with either named inventor, McNamara or Cline, to form his opinion. I also note that, in addition to my earlier discussions with Frank McCamant, I have now reviewed the expert reports of both Frank McCamant (dated April 5, 2022) and Shams Siddiqi, Ph.D. (dated May 6, 2022) and they do not change any of my opinions.

[13] In paragraph 74, Dr. Ehsani states that documentary evidence supports his opinion that, "Early development by Lancium had focused on turning off groups of miners for controlled fast ramp down in the seconds timeframe and optimizing the startup time of miners in the minutes timeframe" and that "In mid-2018 through early 2019, Lancium made a leap in technology by first developing the ability to suspend operation of miners without shutting them down and then next developing the ability to control the internal processing speed of large groups of individual miners." I disagree as these statements are misleading. The documents cited by Dr. Ehsani dated before Lancium's meeting with Storms only show a capability to ramp between states of "all hash"

or “hash stopped.” *See, e.g.*, Ex. 2, LANCIUM00021635 (Nov. 12, 2018) (“Testing now shows capability to ramp miners from hash stopped to all hashing...”). After meeting with Storms, Lancium’s documents show a desired capability to operate miners at less than 100% capacity. Ex. 3, LANCIUM00014475 at 14475-78 (May 7, 2019).

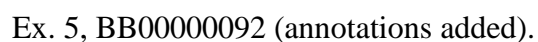
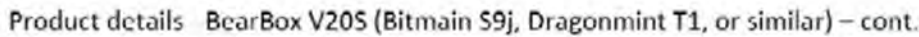
[14] In paragraphs 79-83 Ehsani alleges that a published application to Lancium, WO2019/139632 (the ’632 Application), teaches “most, if not all, of the subject matter Mr. Storms allegedly communication to Mr. McNamara.” I disagree because the ’632 Application differs from Storms’ system in at least a few key areas. Ex. 4, LANCIUM00000050.

[15] First, Storms’ system uses monitored condition data at multiple points in time to determine a strategy encompassing those points in time. For example, as I explained in my initial report, the Bearbox systems calculated profitability at distinct time intervals, each with an associated power threshold (as recited in claim 1), such as by comparing Bitcoin mining profitability based on, inter alia, current power usage and energy price conditions on the one hand with profitability based, inter alia, on expected future power usage and energy price conditions. Initial Report, ¶ 62. The system described in the ’632 Application, however, merely responds to current conditions and reacts when a threshold condition is met (e.g. start mining when energy producer is selling power to the grid at a negative price). *See, e.g.*, Ex. 4, ’632 Application at ¶ 63.

[16] Additionally, unlike the Storms’ system, the ’632 Application does not describe the use of a Bitcoin mining breakeven calculation for determining when to act or how to act. While Dr. Ehsani alleges that the ’632 Application’s use of the term “‘economic considerations’ includes economic feasibility which a POSITA would have understood would necessarily require consideration of operational revenue (e.g., mining revenue) compared to operational costs,

including power costs (e.g., at LMP or settlement prices)” (Ehsani, ¶ 90), I disagree. Instead, a POSA would understand the ’632 Application’s use of the term “economic conditions” to refer to the actual power price threshold examples described in the specification and above, such as when an energy producer is selling energy to the grid at a negative price. *See, e.g., Ex., 4 ’632 Application at ¶ 63.*

[17] In paragraph 106, Dr. Ehsani refers to Figure 11 of the ’433 Patent and describes it as “a system for implementing control strategies based on a power option agreement.” Ehsani, ¶ 106. As shown below, Figure 11 includes nearly all of the same components described in Storms’ annotated system diagram. Ex. 5, BB00000092. Both include a set of computing systems disposed in a housing (compare elements 1102, 1004 and 1106 in Figure 11 to physical box shown in annotated diagram), control software monitoring Bitcoin and energy prices and related parameters (compare elements 262, 1122, 1124, 1126, and 1128 in Figure 11 to software management clouds shown in annotated diagram) as well as power entity components (compare element 1140 in Figure 11 to generation assets shown in annotated diagram). The following is a mapping of the reference numerals used in Figure 11 as applied to their corresponding element on the Bearbox annotated system diagram. As the diagram shows, the similarities are striking:



6

A.4. Messrs. McNamara and Cline Are Not The Sole Inventors of the '433 Patent

[18] In paragraph 110, Dr. Ehsani states that “it is my opinion that Messrs. McNamara and Cline are the sole inventors of each of the inventions claimed in each of the claims of the '433.” I disagree.

[19] I understand that Lancium objected to providing information about its conception of the '433 Patent on a claim-by-claim and element-by-element basis, and therefore did not provide discovery responses or analysis for claims 2-20 prior to Dr. Ehsani's report (and Mr. Baer's report).

[20] I understand claims 1, 17 and 20 are the only Asserted Claims written in independent form.

A.4.i. Claim 1

[21] Claim 1 is reproduced below:

A system comprising:

a set of computing systems, wherein the set of computing systems is configured to perform computational operations using power from a power grid;

a control system configured to:

monitor a set of conditions;

receive power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals;

responsive to receiving the power option data, determine a performance strategy for the set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval; and

provide instructions to the set of computing systems to perform one or more computational operations based on the performance strategy.

[22] It is my opinion that McNamara and Cline were not in possession of each claim element of claim 1 of the of the '433 patent at least as of May 1, 2019. The sub-sections below provide additional detail concerning the basis for my opinion.

Claim 1(b): “a control system configured to: monitor a set of conditions;”

[23] In paragraph 114, Dr. Ehsani alleges that '632 Application teaches cryptocurrency prices as an economic consideration. I disagree. While the '632 Application does mention cryptocurrency mining as a possible use of its computing systems, it nowhere describes monitoring cryptocurrency prices.

Claim 1(c): “receive power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals”

[24] In paragraph 116, Dr. Ehsani refers to Lancium's supposed “flash of insight” in which Cline and McNamara conceived of this aspect of claim 1. I note that this supposed “flash of insight” occurred August 27, 2019, nearly four months after Lancium received Storms information. I also note that this “flash of insight” appears to simply be repeating what MP2 representatives had told Lancium a few hours earlier that day. Ex. 6, LANCIUM00033240.

[25] As I explained in my Initial Report, the systems conceived of and/or developed by Bearbox and communicated to Lancium satisfy this aspect of claim 1 at least because the Bearbox systems calculated profitability at distinct time intervals, each with an associated power threshold, such as comparing mining profitability based on, inter alia, current power usage and energy price conditions on the one hand with profitability based, inter alia, on expected future power usage and energy price conditions. For example, the Bearbox system used multiple time intervals, including

the day-ahead hourly intervals and real-time 5-minute intervals, each of which included an associated minimum power threshold used in periodically determining performance strategies (i.e. every five minutes). The Bearbox system also included custom PDU software capable of providing fine grain load control (i.e. the ability to turn on some but not all of the miners) and also was configured to work modularly with a variety of different miners that had different power requirements.¹

[26] In my opinion, the Lancium system did not consider multiple time intervals with associated power thresholds, as exemplified by the Lancium system described in the '632 Application (described above), until after its communications with Storms.

[27] In addition, I also explained that, to the extent this feature is found not to be explicitly described in the Bearbox disclosure, it is my opinion that merely ordinary skill would have been required to explicitly incorporate this feature. For example, the involvement of and communication with a QSE in connection with power option agreements (and the data associated with power option agreements) was well-known, conventional feature in the art at the time of the invention.² Dr. Ehsani appears to agree with me to the extent he states that McNamara and Cline were familiar with these well-known principles.

Claim 1(d): responsive to receiving the power option data, determine a performance strategy for the set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval"

¹ Ex. 7, Deposition of Austin Storms, dated February 23, 2022, pp. 99-100, 290.

² I discussed these issues and facts with Frank McCamant by telephone on April 1, 2022, and I have now since reviewed his report and my opinions have not changed. I reserve the right to supplement my report based on any additional information that may be included in his supplemental report.

[28] In paragraph 117, Dr. Ehsani refers to Lancium’s supposed “flash of insight” in which Cline and McNamara conceived of this aspect of claim 1. I note that this supposed “flash of insight” occurred August 27, 2019, nearly four months after Lancium received Storms’ information.

[29] I disagree with Dr. Ehsani’s allegation that McNamara and Cline are the sole inventors of this limitation, at least because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

Claim 1(e): “provide instructions to the set of computing systems to perform one or more computational operations based on the performance strategy”

[30] In paragraph 118, Dr. Ehsani refers to Lancium’s supposed conception of this aspect of claim 1, but this conception occurred about four months after Lancium received Storms’ information.

[31] I disagree with Dr. Ehsani’s allegation that McNamara and Cline are the sole inventors of this limitation, at least because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not provide instructions in accordance with the determined performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.ii. Claim 2

[32] Claim 2 is reproduced below:

The system of claim 1, wherein the control system is configured to monitor the set of conditions comprising:

a price of power from the power grid; and

a plurality of parameters associated with one or more computational operations to be performed at the set of computing systems.

[33] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.iii. Claim 3

[34] Claim 3 is reproduced below:

The system of claim 2, wherein the control system is configured to:

determine the performance strategy for the set of computing systems based on a combination of at least the portion option data, the price of power from the power grid, and the plurality of parameters associated with the one or more computational operations.

[35] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.iv. Claim 4

[36] Claim 4 is reproduced below:

The system of claim 3, wherein the performance strategy further comprises:

an order for the set of computing systems to follow when performing the one or more computational operations, wherein the order is based on respective priorities associated with the one or more computational operations.

[37] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.v. Claim 5

[38] Claim 5 is reproduced below:

The system of claim 4, wherein the performance strategy further comprises:

at least one power consumption target that is greater than a minimum power threshold when the price of power from the power grid is below a threshold price during the time interval associated with the minimum power threshold.

[39] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.vi. Claim 6

[40] Claim 6 is reproduced below:

The system of claim 1, wherein the control system is further configured to:

receive subsequent power option data based, at least in part, on the power option agreement,

wherein the subsequent power option data specify to decrease one or more minimum power thresholds of the set of minimum power thresholds.

[41] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.vii. Claim 7

[42] Claim 7 is reproduced below:

The system of claim 6, wherein the control system is further configured to:

responsive to receiving the subsequent power option data, modify the performance strategy for the set of computing systems based on a combination of at least the portion of the subsequent power option data and at least one condition in the set of conditions,

wherein the modified performance strategy comprises one or more reduced power consumption targets for the set of computing systems.

[43] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.viii. Claim 8

[44] Claim 8 is reproduced below:

**The system of claim 7, wherein the control system is further configured to:
provide instructions to the set of computing systems to perform the one or
more computational operations based on the modified performance
strategy.**

[45] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.ix. Claim 9

[46] Claim 9 is reproduced below:

**The system of claim 1, wherein the control system is a remote master control
system positioned remotely from the set of computing systems.**

[47] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.x. Claim 10

[48] Claim 10 is reproduced below:

**The system of claim 1, wherein the control system is a mobile computing
device.**

[49] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect

to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xi. Claim 11

[50] Claim 11 is reproduced below:

The system of claim 1, wherein the control system is configured to receive the power option data while monitoring the set of conditions.

[51] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xii. Claim 12

[52] Claim 12 is reproduced below:

**The system of claim 1, wherein the control system is further configured to:
provide a request to a qualified scheduling entity (QSE) to determine the power option agreement; and
receive power option data in response to providing the request to the QSE.**

[53] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also

did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xiii. Claim 13

[54] Claim 13 is reproduced below:

The system of claim 1, wherein the power option data specify: (i) a first minimum power threshold associated with a first time interval in the set of time intervals, and (ii) a second minimum power threshold associated with a second time interval in the set of time intervals,
wherein the second time interval is subsequent to the first time interval.

[55] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xiv. Claim 14

[56] Claim 14 is reproduced below:

The system of claim 13, wherein the control system is configured to:
determine the performance strategy for the set of computing systems such that the performance strategy comprises:
a first power consumption target for the set of computing systems for the first time interval, wherein the first power consumption target is equal to or greater than the first minimum power threshold; and
a second power consumption target for the set of computing systems for the second time interval, wherein the second power consumption target is equal to or greater than the second minimum power threshold.

[57] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xv. Claim 15

[58] Claim 15 is reproduced below:

The system of claim 1, wherein a total duration of the set of time intervals corresponds to a twenty-four hour period.

[59] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xvi. Claim 16

[60] Claim 16 is reproduced below:

The system of claim 1, wherein the set of conditions monitored by the control system further comprise:

a price of power from the power grid; and

a global mining hash rate and a price for a cryptocurrency; and

wherein the control system is configured to:

determine the performance strategy for the set of computing systems based on a combination of at the portion of the power option data, the price of

power from the power grid, the global mining hash rate and the price for the cryptocurrency,

wherein the performance strategy specifies for at least a subset of the set of computing systems to perform mining operations for the cryptocurrency when the price of power from the power grid is equal to or less than a revenue obtained by performing the mining operations for the cryptocurrency.

[61] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xvii. Claim 17

[62] Claim 17 is reproduced below:

A method comprising:

monitoring, by a computing system, a set of conditions;

receiving, at the computing system, power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals;

responsive to receiving the power option data, determining a performance strategy for a set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval; and

providing instructions to the set of computing systems to perform one or more computational operations based on the performance strategy.

[63] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xviii. Claim 18

[64] Claim 18 is reproduced below:

The method of claim 17, wherein determining the performance strategy for the set of computing systems comprises:

identifying information about the set of computing systems; and

determining the performance strategy to further comprise instructions for at least a subset of the set of computing systems to operate at an increased frequency based on a combination of at least the portion of the power option data and the information about the set of computing systems.

[65] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xix. Claim 19

[66] Claim 19 is reproduced below:

The method of claim 17, further comprising:

receiving subsequent power option data based, at least in part, on the power option agreement, wherein the subsequent power option data specify to

decrease one or more minimum power thresholds of the set of minimum power thresholds;

responsive to receiving the subsequent power option data, modifying the performance strategy for the set of computing systems based on a combination of at least the portion of the subsequent power option data and at least one condition in the set of conditions, wherein the modified performance strategy comprises one or more reduced power consumption targets for the set of computing systems; and

providing instructions to the set of computing systems to perform the one or more computational operations based on the modified performance strategy.

[67] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.4.xx.Claim 20

[68] Claim 20 is reproduced below.

A non-transitory computer readable medium having stored therein instructions executable by one or more processors to cause a computing system to perform functions comprising:

monitoring a set of conditions;

receiving power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals;

responsive to receiving the power option data, determining a performance strategy for a set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power

consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval; and

providing instructions to the set of computing systems to perform one or more computational operations based on the performance strategy.

[69] I disagree with Dr. Ehsani's allegation that McNamara and Cline are the sole inventors of the limitations recited in this claim, at least for the reasons noted above with respect to claim 1, such as because the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms. The Lancium system also did not determine a performance strategy encompassing multiple time intervals with associated power thresholds prior to its communications with Storms.

A.5. Bearbox Communicated The Inventions Recited In The Asserted Claims Of The '433 Patent To Lancium

[70] In paragraph 164, Dr. Ehsani states that "Based on my review of the record, it is my opinion that Mr. Storms did not communicate any of the inventions claimed in the '433 patent to Mr. McNamara or Lancium." I disagree, largely for the reasons set forth in my Initial Report. In the following paragraphs, I note additional discrepancies I have with Dr. Ehsani's conclusion below.

[71] Also in paragraph 164, Dr. Ehsani alleges that "Mr. Storms admitted as much to Mr. Hakes on May 6, 2019 (three days after the dinner with Mr. McNamara where Mr. Storms allegedly communicated much of the information that Dr. McClellan relies upon in his report) when Mr. Storms stated: "The guys at Lancium are doing what we are trying to do exactly, but they don't have a container builder or software team yet." Ehsani, ¶ 164 citing BB10004001. I note that this statement is incomplete. As set forth in Plaintiff's response to Request For Admission No. 34:

“In the text message in which this language appears, Mr. Storms further stated: ‘Mike’s pretty interested in my solution.’ The text message from which the language quoted in this Request is excerpted is only one message in a series of messages between Mr. Storms and Mr. Hakes on or about May 6, 2019, and on other days both before and after May 6, 2019. In additional messages in this series of messages, Mr. Storms further stated: “they want my logic,” and “[t]he thing that’s currently setting me apart from everyone else is the fully vertical integrated solution – there are plenty of hardware guys, but none are doing what I am from the software side because they don’t know how.”

Ex. 8, Plaintiffs’ Objections and Responses to 2nd Set of RFAs (Nos. 34-41).

[72] In paragraph 170, Dr. Ehsani claims that “Other than Mr. Storms and Mr. McNamara’s deposition testimony and certain after-the-fact statements made by Mr. Storms about the dinner conversation (e.g., BB10004001), I am not aware of any documents that corroborate Mr. Storms’ testimony about what was allegedly communicated during the dinner and by whom, and Dr. McClellan does not cite to any corroborating documents.” I disagree. In my opinion, the post-conference text and email communications between Storms and McNamara corroborate the subject matter discussed at the dinner. As I explained in Section VIII of my Initial Report, this information communicated each aspect claimed in the ’433 Patent. In addition, the lone cited document (Ex. 9, BB10004001) is misleading and incomplete for the reasons set forth in the preceding paragraph.

[73] In paragraphs 171-188, Dr. Ehsani analyzes the corroborating text messages and email contents. However, in doing so, Dr. Ehsani analyzes each piece of information in isolation, rather than the entirety of the information communicated by Storms to Lancium. I disagree with this approach.

[74] For example, in paragraph 179, Dr. Ehsani disagrees with my opinion that “that the drawing ‘illustrates a plurality of computing systems that include Bitcoin miners (such as Bitmain s9, Dagonmint T1, or the like) having different power thresholds.’ (McClellan Report, at ¶ 177). [Because, w]hile the header does list these miners, the drawing does not indicate one way or

another whether the miners in the brown box at the bottom of the drawing are of the same type or different types and/or the power thresholds of those miners.” Dr. Ehsani ignores that the annotated system diagram part of a 2-page PDF file, the first page of which shows various product details explicitly states that the box can house “272 miners.” Ex. 5, BB00000091. A POSA also would understand from at least the header noting the specific miner models (or similar) that each may have different power requirements and/or operational capabilities, as I explained in my Initial Report.

[75] Similarly, in paragraph 180, Dr. Ehsani again oversimplifies the diagram and ignores the entirety of the communications when he states there is no teaching of “determining mining profitability.” The diagram was sent to McNamara along with a spreadsheet explicitly showing profitability determinations. Ex. 5, BB00000097.

[76] Again in paragraph 181, Dr. Ehsani oversimplifies the drawing and misses the point. Any ambiguity in the diagram is cured by the details described elsewhere in the PDF and/or spreadsheet. Dr. Ehsani also misses the point when he alleges that “Additionally, I understand that it is not disputed that Mr. Storms’ simulation did not communicate with an ISO or a QSE. Mr. Storms’ simulation, therefore, could not receive power option data (e.g., a set of minimum power thresholds and a set of timer intervals) based on a power option agreement, determine a performance strategy that comprised a power consumption target for the set of computing systems for each time interval that was equal to or greater than the minimum power threshold associated with each time interval responsive to such data, or provide instructions based on that performance strategy.” Ehsani, ¶ 181. Dr. Ehsani conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept.

[77] In my experience writing code and simulations, a system designer will typically make many assumptions about real-world variables in order to test other aspects of the system. For example, in simulating a process that utilizes energy, one may assume an endless supply of power so that other aspects, such as logic simulating a real-time profitability determination and the like, can be tested more specifically. As the software is eventually released into a real-world application, those assumed variables may be updated in the software to account for the real-world environment in which the software operates. Based on my experience writing software, it is my opinion that a POSA would understand that Mr. Storms' simulation assumed an unlimited amount of power to test his profitability determination algorithm, and that (1) any real-world system will necessarily need to account for power availability and (2) replacing Mr. Storms' assumed power availability with data from an ISO or QSE was a well-known, conventional capability that would have required merely ordinary skill to implement.

[78] While Dr. Ehsani eventually discusses the profitability spreadsheet in paragraphs 185-187, he again oversimplifies the document, implying that a POSA would not be able to decipher the process embodied in the spreadsheet. For example, Dr. Ehsani alleges that "The so-called .CSV file is nothing more than a hard-coded Excel spreadsheet—meaning that it shows values only. The document contains no source code, no mathematical formulas, no explicit logic, no methodology, and, other than the respective column headings, the document contains no description of any of the values or where those values came from." Yet, Cline contradicts this implication, as he had no issues deciphering the methodology embodied in the spreadsheet:

Q. And Column L, it says, "Realized revenue."

Do you see that?

A. Yes.

Q. Do you know what that means?

A. Looking down through the numbers, I see
that it is either equal to the mining revenue or
equal to the realtime LMP revenue.

Q. Okay.

A. Based on what looks to be which one is
greater.

Ex. 10, Cline Dep. Tr. at 150:7-16; see also, Cline Dep Tr. at 146-150.

[79] In addition, as noted below in Section A.7, Mr. Storms' spreadsheet is strikingly similar to a later created spreadsheet by McNamara and which formed the basis for a slide in an investor pitch deck. In my opinion, (1) Dr. Ehsani's conclusion is inconsistent with this evidence and (2) Lancium recognized the breadth of Mr. Storms disclosure.

A.5.i. Claim 1

[80] I disagree with Dr. Ehsani's allegation that Mr. Storms "did not contribute to any element of this claim in any significant manner, and that to the extent any of the subject matter of Mr. Storms' communications with Mr. McNamara could be argued to be contained in the claim that subject matter is insignificant in quality when that contribution is measured against the dimension of the full invention, and was already known to Mr. McNamara and/or Lancium at the time of the communication." First, as set forth in my Initial Report, Mr. Storms communicated all aspects of the claims of the '433 Patent. Second, Dr. Ehsani's analysis mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline.

[81]

Claim 1(a): "a set of computing systems, wherein the set of computing systems is configured to perform computational operations using power from a power grid;"

[82] In paragraph 195, Dr. Ehsani alleges that because Bearbox's system diagram shows behind the meter power, "There is no indication of grid connection or grid power." Dr. Ehsani

again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. A POSA would understand that are a finite number of sources of power (e.g. grid power and behind-the-meter power), and that any of these limited sources would predictably provide the power required to operate the system.

[83] In paragraph 196, Dr. Ehsani's mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline

Claim 1(b): "a control system configured to: monitor a set of conditions;"

[84] In paragraph 198, Dr. Ehsani's mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline.

Claim 1(c): "receive power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals"

[85] In paragraph 195, Dr. Ehsani alleges that because Bearbox's system diagram shows behind the meter power, "There is no indication of grid connection or grid power." Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. A POSA would understand that are a finite number of sources of power (e.g. grid power and behind-the-meter power), and that any of these limited sources would predictably provide the power required to operate the system.

[86] In paragraph 200, Dr. Ehsani alleges that I fundamentally misunderstand the claim. I disagree as the plain and ordinary meaning of the language supports the positions set forth in my

Initial Report. Additionally, and as noted above, the Lancium system did not consider multiple time intervals with associated power thresholds until after its communications with Storms.

[87] In paragraph 201, Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept

[88] In paragraph 202, Dr. Ehsani criticizes Mr. Storm's for not meeting ERCOT CLR requirements, but I note that the claim does not recite ERCOT CLR certification.

[89] In paragraph 203, Dr. Ehsani's mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline.

Claim 1(d): responsive to receiving the power option data, determine a performance strategy for the set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval"

[90] In paragraph 205, Dr. Ehsani restates his arguments relating to power option agreements and the data associated therewith. I disagree with this statement for the reasons set forth above.

[91] In paragraph 206, Dr. Ehsani criticizes Storms for acknowledging that certain aspects of the invention, such as Bitcoin mining, retrieving energy price and availability data, are conventional aspects of the art. I disagree that this acknowledgement by Storms implies a lack of contribution. All inventions utilize and build-upon well-known, conventional technologies.

[92] In paragraphs 206 and 207, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraph 117 of his report.

Claim 1(e): “provide instructions to the set of computing systems to perform one or more computational operations based on the performance strategy”

[93] In paragraph 209, Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept.

[94] In paragraph 210, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 118-19 of his report.

A.5.ii. Claim 2

[95] Claim 2 is reproduced below:

The system of claim 1, wherein the control system is configured to monitor the set of conditions comprising:

a price of power from the power grid; and

a plurality of parameters associated with one or more computational operations to be performed at the set of computing systems.

[96] In paragraph 212, I disagree with Dr. Ehsani for the reasons set forth above for claim 1.

[97] In paragraphs 213 and 214, Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. A POSA would understand that are a finite number of sources of power (e.g. grid power and behind-the-meter power), and that any of these limited sources would predictably provide the power required to operate the system.

A.5.iii. Claim 3

[98] Claim 3 is reproduced below:

The system of claim 2, wherein the control system is configured to:

determine the performance strategy for the set of computing systems based on a combination of at least the portion option data, the price of power from the power grid, and the plurality of parameters associated with the one or more computational operations.

[99] In paragraph 217, Dr. Ehsani analyzes each piece of information in isolation, rather than the entirety of the information communicated by Storms to Lancium and again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. I disagree with his analysis at least for the reasons set forth above in claim 1 and 2.

[100] In paragraph 218, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 125 of his report.

A.5.iv. Claim 4

[101] Claim 4 is reproduced below:

The system of claim 3, wherein the performance strategy further comprises:

an order for the set of computing systems to follow when performing the one or more computational operations, wherein the order is based on respective priorities associated with the one or more computational operations.

[102] In paragraph 221, Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. As I explained in my Initial Report, the systems conceived of and/or developed by Bearbox satisfy this aspect of claim 4 at least because the Bearbox systems could individually instruct each miner separately through custom PDU software, and could prioritize computational operations among the available set of

miners. A POSA would understand that, because miners could be turned on/off individually (individually addressable), miners could be turned on in a specific order.

[103] In paragraph 220, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 127 of his report.

A.5.v. Claim 5

[104] Claim 5 is reproduced below:

The system of claim 4, wherein the performance strategy further comprises:

at least one power consumption target that is greater than a minimum power threshold when the price of power from the power grid is below a threshold price during the time interval associated with the minimum power threshold.

[105] I disagree with Dr. Ehsani's analysis in paragraph 224 for the reasons I disagree with his analysis regarding claim 1.

[106] In paragraph 225, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 129 of his report.

A.5.vi. Claim 6

[107] Claim 6 is reproduced below:

The system of claim 1, wherein the control system is further configured to:

receive subsequent power option data based, at least in part, on the power option agreement,

wherein the subsequent power option data specify to decrease one or more minimum power thresholds of the set of minimum power thresholds.

[108] I disagree with Dr. Ehsani's analysis in paragraph 226 for the reasons I disagree with his analysis regarding claim 1.

[109] In paragraph 227, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 131 of his report.

A.5.vii. Claim 7

[110] Claim 7 is reproduced below:

The system of claim 6, wherein the control system is further configured to:

responsive to receiving the subsequent power option data, modify the performance strategy for the set of computing systems based on a combination of at least the portion of the subsequent power option data and at least one condition in the set of conditions,

wherein the modified performance strategy comprises one or more reduced power consumption targets for the set of computing systems.

[111] In paragraph 231, Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. I disagree with his analysis at least for the reasons set forth above in claim 1. In addition, I disagree with Dr. Ehsani's position that a POSA would not have found it obvious to adjust the performance strategy in light of changing inputs—the entire point of any real-time system is to monitor conditions and respond accordingly.

[112] In paragraph 232, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 131 of his report.

A.5.viii. Claim 8

[113] Claim 8 is reproduced below:

The system of claim 7, wherein the control system is further configured to:

provide instructions to the set of computing systems to perform the one or more computational operations based on the modified performance strategy.

[114] I disagree with Dr. Ehsani's analysis in paragraph 235 for the reasons I disagree with his analysis regarding claim 1.

[115] In paragraph 236, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 135 of his report.

A.5.ix. Claim 9

[116] Claim 9 is reproduced below:

The system of claim 1, wherein the control system is a remote master control system positioned remotely from the set of computing systems.

[117] In paragraph 239, Dr. Ehsani again refuses to acknowledge the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept.

[118] In paragraph 240, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 137 of his report.

A.5.x. Claim 10

[119] Claim 10 is reproduced below:

The system of claim 1, wherein the control system is a mobile computing device.

[120] In paragraphs 242 and 243, Dr. Ehsani acknowledges that this aspect of the '433 was a well-known, conventional feature. I agree. A POSA would understand that the software functionality shown in the annotated diagram could run on any number of computer systems, such as general purpose computers like workstations and laptops, or custom hardware.

A.5.xi. Claim 11

[121] Claim 11 is reproduced below:

The system of claim 1, wherein the control system is configured to receive the power option data while monitoring the set of conditions.

[122] In paragraph 250, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 144-145 of his report.

A.5.xii. Claim 12

[123] Claim 12 is reproduced below:

**The system of claim 1, wherein the control system is further configured to:
provide a request to a qualified scheduling entity (QSE) to determine the power option agreement; and
receive power option data in response to providing the request to the QSE.**

[124] In paragraph 249, Dr. Ehsani indicates that he reviewed Mr. Storms deposition testimony but does not indicate that he relied on the deposition testimony of Messrs. McNamara or Cline. He also again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. As I explained above, based on my experience writing code and simulations, a system designer will typically make many assumptions about real-world variables in order to test other aspects of the system, and as the software is eventually released into a real-world application, those assumed variables may be updated in the software to account for the real-world environment in which the software operates. Based on my experience writing software, it is my opinion that a POSA would understand that Mr. Storms' simulation assumed an unlimited amount of power to test his profitability determination algorithm, and that (1) any real-world system will necessarily need to account for power availability and (2) replacing Mr. Storms'

assumed power availability with data from an ISO or QSE was a well-known, conventional capability that would have required merely ordinary skill to implement. Dr. Ehsani may not appreciate the level of skill required in this situation because he does not have experience writing code.

[125] In paragraph 250, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 144-145 of his report.

A.5.xiii. Claim 13

[126] Claim 13 is reproduced below:

The system of claim 1, wherein the power option data specify: (i) a first minimum power threshold associated with a first time interval in the set of time intervals, and (ii) a second minimum power threshold associated with a second time interval in the set of time intervals,

wherein the second time interval is subsequent to the first time interval.

[127] I disagree with Dr. Ehsani's analysis in paragraph 253 for the reasons I disagree with his analysis regarding claim 1.

[128] In paragraph 254, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 147 of his report.

A.5.xiv. Claim 14

[129] Claim 14 is reproduced below:

The system of claim 13, wherein the control system is configured to:

determine the performance strategy for the set of computing systems such that the performance strategy comprises:

a first power consumption target for the set of computing systems for the first time interval, wherein the first power consumption target is equal to or greater than the first minimum power threshold; and

a second power consumption target for the set of computing systems for the second time interval, wherein the second power consumption target is equal to or greater than the second minimum power threshold.

[130] I disagree with Dr. Ehsani's analysis in paragraph 257 for the reasons I disagree with his analysis regarding claim 1.

[131] In paragraph 258, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 149 of his report.

A.5.xv. Claim 15

[132] Claim 15 is reproduced below:

The system of claim 1, wherein a total duration of the set of time intervals corresponds to a twenty-four hour period.

[133] In paragraph 261, I disagree with Dr. Ehsani's analysis for the reasons I disagree with his analysis regarding claim 14. In addition, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 151 of his report.

A.5.xvi. Claim 16

[134] Claim 16 is reproduced below:

The system of claim 1, wherein the set of conditions monitored by the control system further comprise:

a price of power from the power grid; and

a global mining hash rate and a price for a cryptocurrency; and

wherein the control system is configured to:

determine the performance strategy for the set of computing systems based on a combination of at the portion of the power option data, the price of power from the power grid, the global mining hash rate and the price for the cryptocurrency,

wherein the performance strategy specifies for at least a subset of the set of computing systems to perform mining operations for the cryptocurrency when the price of power from the power grid is equal to or less than a revenue obtained by performing the mining operations for the cryptocurrency.

[135] In paragraph 264 and 267, I disagree with Dr. Ehsani's analysis for the reasons I disagree with his analysis regarding claim 2. In addition, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 153-54 of his report.

A.5.xvii. Claim 17

[136] Claim 17 is reproduced below:

A method comprising:

monitoring, by a computing system, a set of conditions;

receiving, at the computing system, power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals;

responsive to receiving the power option data, determining a performance strategy for a set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval; and

providing instructions to the set of computing systems to perform one or more computational operations based on the performance strategy.

[137] I disagree with Dr. Ehsani's analysis in paragraph 269 for the reasons I disagree with his analysis regarding claim 1.

A.5.xviii. Claim 18

[138] Claim 18 is reproduced below:

The method of claim 17, wherein determining the performance strategy for the set of computing systems comprises:

identifying information about the set of computing systems; and

determining the performance strategy to further comprise instructions for at least a subset of the set of computing systems to operate at an increased frequency based on a combination of at least the portion of the power option data and the information about the set of computing systems.

[139] In paragraph 272, Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. The information communicated to Lancium also explicitly lists different types of miners. *See, e.g.*, Ex. 5, [BB00000091-92](#). In addition, as I explain below in my discussion Mr. Baer's report, a POSA would understand that operational characteristics such as the frequency of operations could be customized by turning on subsets of miners (as noted above) and/or utilizing miners having desired operational characteristics so as to meet power availability constraints. Mr. Baer appears to acknowledge this behavior in paragraph 83 of this report when he states, "For example, instead of the individual statically defined values *miner_hashrate* and *kW_load*, lines 13-43 of *miner_amort_breakeven.py* include a collection of statically defined values like *kw_s9* and *cost_s9*. The source code, such as line 187, is defined to only use a single set of these values, so

this difference allows a developer to switch between the values in lines 13-43...” Again, Dr. Ehsani may not appreciate the level of skill required in this situation because he does not write code.

[140] In paragraph 273, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 158 of his report.

A.5.xix. Claim 19

[141] Claim 19 is reproduced below:

The method of claim 17, further comprising:

receiving subsequent power option data based, at least in part, on the power option agreement, wherein the subsequent power option data specify to decrease one or more minimum power thresholds of the set of minimum power thresholds;

responsive to receiving the subsequent power option data, modifying the performance strategy for the set of computing systems based on a combination of at least the portion of the subsequent power option data and at least one condition in the set of conditions, wherein the modified performance strategy comprises one or more reduced power consumption targets for the set of computing systems; and

providing instructions to the set of computing systems to perform the one or more computational operations based on the modified performance strategy.

[142] I disagree with Dr. Ehsani’s analysis in paragraph 275 for the reasons I disagree with his analysis regarding claims 6, 7 and 8.

[143] In paragraph 276, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 160 of his report.

A.5.xx. Claim 20

[144] Claim 20 is reproduced below.

A non-transitory computer readable medium having stored therein instructions executable by one or more processors to cause a computing system to perform functions comprising:

monitoring a set of conditions;

receiving power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals;

responsive to receiving the power option data, determining a performance strategy for a set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval; and

providing instructions to the set of computing systems to perform one or more computational operations based on the performance strategy.

[145] In paragraph 279 and 280, Dr. Ehsani mischaracterizes well-known principles and features of the art as supposed contributions by McNamara and/or Cline. I also disagree with his analysis for the reasons I disagree with his analysis in paragraphs 162 of his report.

A.6. Bearbox Was In Possession of The Inventions Recited in the '433 Patent

[146] In paragraph 281, Dr. Ehsani states that “it is my opinion, as supported by the evidence in this case, that Mr. Storms had not conceived or reduced to practice the technology claimed in the ‘433 patent nor was he in possession of the technology claimed in the ‘433 patent at the time he communicated with Mr. McNamara and Lancium (i.e., between May 3 and May 9, 2019).” I disagree, largely for the reasons set forth in section VII of my Initial Report. In the following paragraphs, I note additional discrepancies I have with Dr. Ehsani’s conclusion.

[147] In my opinion, Dr. Ehsani places undue emphasis on the testimony of third-parties Ben Hakes and Denis Labij. In paragraphs 282 and 283, Dr. Ehsani alleges that “it was Mr. Hakes who first introduced Mr. Storms to the power markets and concepts relating to them, including, for example, behind the meter (Ex. 11, BB10000763-773, at 763-64), LMP and RTMB and day-ahead pricing (Ex. 12, BB10003975-4026, at 3975-76; Ex. 7, Storms Depo. at 64:18-66:1), and power arbitrage generally.” I disagree with that characterization of Mr. Hakes testimony. For example, Mr. Hakes testified that Mr. Storms “was already thinking about” or “had already heard” of concepts they discussed. Ex. 12, Deposition of Ben Hakes dated January 28, 2022, at 151:9-15, 152:12-17.

[148] Dr. Ehsani similarly overstates the contributions of Denis Labij in paragraph 284. Mr. Labij admitted that he had no commercial cryptocurrency mining operations and also acknowledged that his envisioning of the “universal concept” of power arbitrage was actually different than that developed by Mr. Storms. Ex. 13, Deposition of Dennis Labij dated March 9, 2022, at pp. 78-79 and 88-89.

[149] In paragraph 285, Dr. Ehsani again overstates the significance Mr. Storms statement: “The guys at Lancium are doing what we are trying to do exactly, but they don’t have a container builder or software team yet.” I note that this statement is incomplete. As set forth in Plaintiff’s response to Request For Admission No. 34:

“In the text message in which this language appears, Mr. Storms further stated: ‘Mike’s pretty interested in my solution.’ The text message from which the language quoted in this Request is excerpted is only one message in a series of messages between Mr. Storms and Mr. Hakes on or about May 6, 2019, and on other days both before and after May 6, 2019. In additional messages in this series of messages, Mr. Storms further stated: “they want my logic,” and “[t]he thing that’s currently setting me apart from everyone else is the fully vertical integrated solution – there are plenty of hardware guys, but none are doing what I am from the software side because they don’t know how.”

Ex. 8.

[150] In paragraphs 286-303, Dr. Ehsani comments on Bearbox's source code and summarizes certain positions of Nikolaus Baer. I address Mr. Baer's conclusions below in a separate section. I note that Dr. Ehsani apparently cannot read the Bearbox source code which, in my opinion, is a software-driven invention (like the '433 Patent) and method of arbitrage.

A.6.i. Claim 1

[151] Dr. Ehsani does not challenge that the Bearbox system included the claim preamble or the limitation requiring "a control system configured to: monitor a set of conditions."

Claim 1(c): "receive power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals"

[152] In paragraph 293-295, Dr. Ehsani again conflates possession of an invention with its reduction to practice in arguing "For example, and as discussed in the previous section, Mr. Storms "system" could not accept "power option data" from SPP or any other ISO. Nor could Mr. Storms have entered into a "power option agreement." Dr. Ehsani conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. As set out in my Initial Report, Storms system had a demonstrated possession of the concept, and capability, of receiving data from API calls, including data from power entities such as the SouthWest Power Pool.

[153] In paragraph 296, Dr. Ehsani appears to criticize Mr. Storms code for not writing code for every feature of which he conceived. In my opinion, written code constitutes reduction to practice of an invention and is not required to establish conception. I also note that neither Dr.

Ehsani nor either named inventor, McNamara or Cline, appear to have written any code related to this invention.

[154] In paragraph 297, Dr. Ehsani argues that the “need “to modify” any system that Mr. Storms may have had to include the features claimed in the ‘433 patent shows that Mr. Storms did not conceive of or possess the claimed system.” I disagree, as Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system conceived of, and both described in the various documents and embodied in the simulation, serve as proof of concept. I understand that building portions of a system requiring merely ordinary skill do not depart from the scope of a conceived invention.

[155] In paragraph 298, Dr. Ehsani again overstates the significance Mr. Storms statement: “The guys at Lancium are doing what we are trying to do exactly, but they don’t have a container builder or software team yet.” I note that this statement is incomplete. As set forth in Plaintiff’s response to Request For Admission No. 34:

“In the text message in which this language appears, Mr. Storms further stated: ‘Mike’s pretty interested in my solution.’ The text message from which the language quoted in this Request is excerpted is only one message in a series of messages between Mr. Storms and Mr. Hakes on or about May 6, 2019, and on other days both before and after May 6, 2019. In additional messages in this series of messages, Mr. Storms further stated: “they want my logic,” and “[t]he thing that’s currently setting me apart from everyone else is the fully vertical integrated solution – there are plenty of hardware guys, but none are doing what I am from the software side because they don’t know how.”

Ex. 8.

Claim 1(d): responsive to receiving the power option data, determine a performance strategy for the set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval”

[156] In paragraph 302, Dr. Ehsani appears to criticize Mr. Storms code for writing code for every feature of which he conceived. In my opinion, writing code constitutes reduction to practice of an invention and is not required to establish conception. I also note that neither Dr. Ehsani nor either named inventor, McNamara or Cline, appear to have written any code related to this invention.

[157] In paragraph 303, Dr. Ehsani again overstates the significance Mr. Storms statement: “The guys at Lancium are doing what we are trying to do exactly, but they don’t have a container builder or software team yet.” I note that this statement is incomplete. As set forth in Plaintiff’s response to Request For Admission No. 34:

“In the text message in which this language appears, Mr. Storms further stated: ‘Mike’s pretty interested in my solution.’ The text message from which the language quoted in this Request is excerpted is only one message in a series of messages between Mr. Storms and Mr. Hakes on or about May 6, 2019, and on other days both before and after May 6, 2019. In additional messages in this series of messages, Mr. Storms further stated: “they want my logic,” and “[t]he thing that’s currently setting me apart from everyone else is the fully vertical integrated solution – there are plenty of hardware guys, but none are doing what I am from the software side because they don’t know how.”

Ex. 8.

Claim 1(e): “provide instructions to the set of computing systems to perform one or more computational operations based on the performance strategy”

[158] In paragraph 308, Dr. Ehsani, alleges that the Bearbox source code fails to show “custom PDU software capable of providing fine grain load control (i.e. the ability to turn on some but not all of the miners),” yet Dr. Ehsani admits that “the user interface software could allow a user to manually turn individual relays of a PDU (and thus potentially individual Bitcoin miners) on or off).” Ehsani, ¶ 308.

[159] In paragraph 309, Dr. Ehsani appears to criticize Mr. Storms for not writing code for every feature he conceived. In my opinion, writing code constitutes reduction to practice of an

invention and is not required to establish conception. I also note that neither Dr. Ehsani nor either named inventor, McNamara or Cline, have written any code related to this invention.

[160] In paragraph 310, Dr. Ehsani again overstates the significance Mr. Storms statement: “The guys at Lancium are doing what we are trying to do exactly, but they don’t have a container builder or software team yet.” I note that this statement is incomplete. As set forth in Plaintiff’s response to Request For Admission No. 34:

“In the text message in which this language appears, Mr. Storms further stated: ‘Mike’s pretty interested in my solution.’ The text message from which the language quoted in this Request is excerpted is only one message in a series of messages between Mr. Storms and Mr. Hakes on or about May 6, 2019, and on other days both before and after May 6, 2019. In additional messages in this series of messages, Mr. Storms further stated: “they want my logic,” and “[t]he thing that’s currently setting me apart from everyone else is the fully vertical integrated solution – there are plenty of hardware guys, but none are doing what I am from the software side because they don’t know how.”

Ex. 8.

A.6.ii. Claim 2

[161] Claim 2 is reproduced below:

The system of claim 1, wherein the control system is configured to monitor the set of conditions comprising:

a price of power from the power grid; and

a plurality of parameters associated with one or more computational operations to be performed at the set of computing systems.

[162] I disagree with Dr. Ehsani’s allegation in paragraph 311 that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

A.6.iii. Claim 3

[163] Claim 3 is reproduced below:

The system of claim 2, wherein the control system is configured to:

determine the performance strategy for the set of computing systems based on a combination of at least the portion option data, the price of power from the power grid, and the plurality of parameters associated with the one or more computational operations.

[164] I disagree with Dr. Ehsani's allegation in paragraph 312 that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claims 1-2.

A.6.iv. Claim 4

[165] Claim 4 is reproduced below:

**The system of claim 3, wherein the performance strategy further comprises:
an order for the set of computing systems to follow when performing the one or more computational operations, wherein the order is based on respective priorities associated with the one or more computational operations.**

[166] I disagree with Dr. Ehsani's allegation in paragraph 313 that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claims 1-3.

[167] In paragraph 314, Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system conceived of, and both described in the various documents and embodied in the simulation, serve as proof of concept. As I explained in my Initial Report, the systems conceived of and/or developed by Bearbox satisfy this aspect of claim 4 at least because the Bearbox systems could individually instruct each miner separately through custom PDU software, and could prioritize computational operations among the available set of miners. For example, because miners could be turned on/off individually (individually addressable), a POSA would understand that miners could be turned on in a specific order.

A.6.v. Claim 5

[168] Claim 5 is reproduced below:

The system of claim 4, wherein the performance strategy further comprises:

at least one power consumption target that is greater than a minimum power threshold when the price of power from the power grid is below a threshold price during the time interval associated with the minimum power threshold.

[169] In paragraph 315, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claims 1-4.

[170] In paragraph 316, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani's report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani's language in this paragraph. I disagree with Dr. Ehsani's statements at least for the reasons set forth above with respect to claim 1.

A.6.vi. Claim 6

[171] Claim 6 is reproduced below:

The system of claim 1, wherein the control system is further configured to:

receive subsequent power option data based, at least in part, on the power option agreement,

wherein the subsequent power option data specify to decrease one or more minimum power thresholds of the set of minimum power thresholds.

[172] In paragraph 317, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

[173] In paragraph 318, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani's report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani's language in this paragraph. I disagree with Dr. Ehsani's statements at least for the reasons set forth above with respect to claim 1.

A.6.vii. Claim 7

[174] Claim 7 is reproduced below:

The system of claim 6, wherein the control system is further configured to:

responsive to receiving the subsequent power option data, modify the performance strategy for the set of computing systems based on a combination of at least the portion of the subsequent power option data and at least one condition in the set of conditions,

wherein the modified performance strategy comprises one or more reduced power consumption targets for the set of computing systems.

[175] In paragraph 319, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

[176] In paragraph 320, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani's report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani's language in this paragraph. I disagree with Dr. Ehsani's statements at least for the reasons set forth above with respect to claim 1.

A.6.viii. Claim 8

[177] Claim 8 is reproduced below:

The system of claim 7, wherein the control system is further configured to:

provide instructions to the set of computing systems to perform the one or more computational operations based on the modified performance strategy.

[178] In paragraph 321, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

[179] In paragraph 322, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani's report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani's language in this paragraph. I disagree with Dr. Ehsani's statements at least for the reasons set forth above with respect to claim 1.

A.6.ix. Claim 9

[180] Claim 9 is reproduced below:

The system of claim 1, wherein the control system is a remote master control system positioned remotely from the set of computing systems.

[181] In paragraph 323, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

[182] In paragraph 324, I disagree with Dr. Ehsani because I understand that building portions of a system requiring merely ordinary skill do not depart from the scope of a conceived invention.

A.6.x. Claim 10

[183] Claim 10 is reproduced below:

The system of claim 1, wherein the control system is a mobile computing device.

[184] In paragraph 325, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

A.6.xi. Claim 11

[185] Claim 11 is reproduced below:

The system of claim 1, wherein the control system is configured to receive the power option data while monitoring the set of conditions.

[186] In paragraph 326, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

A.6.xii. Claim 12

[187] Claim 12 is reproduced below:

**The system of claim 1, wherein the control system is further configured to:
provide a request to a qualified scheduling entity (QSE) to determine the power option agreement; and
receive power option data in response to providing the request to the QSE.**

[188] In paragraph 327, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

[189] In paragraph 328, Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system conceived of, and both described in the various documents and embodied in the simulation, serve as proof of concept. As I explained above, based on my experience writing code and simulations, a system designer will typically make many assumptions about real-world variables in order to test other aspects of the system, and as the software is eventually released into a real-world application, those assumed variables

may be updated in the software to account for the real-world environment in which the software operates. Based on my experience writing software, it is my opinion that a POSA would understand that Mr. Storms' simulation assumed an unlimited amount of power to test his profitability determination algorithm, and that (1) any real-world system will necessarily need to account for power availability and (2) replacing Mr. Storms' assumed power availability with data from an ISO or QSE was a well-known, conventional capability that would have required merely ordinary skill to implement. Dr. Ehsani may not appreciate the level of skill required in this situation because he does not have experience writing code.

[190] In paragraph 329, I disagree with Dr. Ehsani because I understand that building portions of a system requiring merely ordinary skill do not depart from the scope of a conceived invention.

[191] In paragraph 330, Dr. Ehsani relies on certain portions of the expert report of Nikolaus Baer dated May 6, 2022. I disagree with Dr. Ehsani for at least the reasons set forth below in reference to the cited portion of Mr. Baer's report.

A.6.xiii. Claim 13

[192] Claim 13 is reproduced below:

The system of claim 1, wherein the power option data specify: (i) a first minimum power threshold associated with a first time interval in the set of time intervals, and (ii) a second minimum power threshold associated with a second time interval in the set of time intervals,

wherein the second time interval is subsequent to the first time interval.

[193] In paragraph 331, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

[194] In paragraph 332, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani's report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani's language in this paragraph. I disagree with Dr. Ehsani's statements at least for the reasons set forth above with respect to claim 1.

A.6.xiv. Claim 14

[195] Claim 14 is reproduced below:

The system of claim 13, wherein the control system is configured to:

determine the performance strategy for the set of computing systems such that the performance strategy comprises:

a first power consumption target for the set of computing systems for the first time interval, wherein the first power consumption target is equal to or greater than the first minimum power threshold; and

a second power consumption target for the set of computing systems for the second time interval, wherein the second power consumption target is equal to or greater than the second minimum power threshold.

[196] In paragraph 333, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 13.

[197] In paragraph 334, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani's report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani's language in this paragraph. I disagree with Dr. Ehsani's statements at least for the reasons set forth above with respect to claim 1.

A.6.xv. Claim 15

[198] Claim 15 is reproduced below:

The system of claim 1, wherein a total duration of the set of time intervals corresponds to a twenty-four hour period.

[199] In paragraph 335, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

[200] In paragraph 336, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani's report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani's language in this paragraph. I disagree with Dr. Ehsani's statements at least for the reasons set forth above with respect to claim 1.

A.6.xvi. Claim 16

[201] Claim 16 is reproduced below:

The system of claim 1, wherein the set of conditions monitored by the control system further comprise:

a price of power from the power grid; and

a global mining hash rate and a price for a cryptocurrency; and

wherein the control system is configured to:

determine the performance strategy for the set of computing systems based on a combination of at the portion of the power option data, the price of power from the power grid, the global mining hash rate and the price for the cryptocurrency,

wherein the performance strategy specifies for at least a subset of the set of computing systems to perform mining operations for the cryptocurrency when the price of power from the power grid is equal to or less than a revenue obtained by performing the mining operations for the cryptocurrency.

[202] In paragraph 337, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

[203] In paragraph 338, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani's report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani's language in this paragraph. I disagree with Dr. Ehsani's statements at least for the reasons set forth above with respect to claim 1.

A.6.xvii. Claim 17

[204] Claim 17 is reproduced below:

A method comprising:

monitoring, by a computing system, a set of conditions;

receiving, at the computing system, power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals;

responsive to receiving the power option data, determining a performance strategy for a set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval; and

providing instructions to the set of computing systems to perform one or more computational operations based on the performance strategy.

[205] In paragraph 339, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

A.6.xviii. Claim 18

[206] Claim 18 is reproduced below:

The method of claim 17, wherein determining the performance strategy for the set of computing systems comprises:

identifying information about the set of computing systems; and

determining the performance strategy to further comprise instructions for at least a subset of the set of computing systems to operate at an increased frequency based on a combination of at least the portion of the power option data and the information about the set of computing systems.

[207] In paragraph 340, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 17.

[208] In paragraph 341, Dr. Ehsani again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system conceived of, and both described in the various documents and embodied in the simulation, serve as proof of concept. In addition, as I explain below in my discussion Mr. Baer's report, a POSA would understand that operational characteristics such as the frequency of operations could be customized by turning on subsets of miners (as noted above) and/or utilizing miners having desired operational characteristics so as to meet power availability constraints. Mr. Baer appears to acknowledge this behavior in paragraph 83 of this report when he states, "For example, instead of the individual statically defined values *miner_hashrate* and *kW_load*, lines 13-43 of *miner_amort_breakeven.py* include a collection of statically defined values like *kw_s9* and *cost_s9*. The source code, such as line 187, is defined to

only use a single set of these values, so this difference allows a developer to switch between the values in lines 13-43...” Again, Dr. Ehsani may not appreciate the level of skill required in this situation because he does not write code.

[209] In paragraph 342, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani’s report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani’s language in this paragraph. I disagree with Dr. Ehsani’s statements at least for the reasons set forth above with respect to claim 1.

A.6.xix. Claim 19

[210] Claim 19 is reproduced below:

The method of claim 17, further comprising:

receiving subsequent power option data based, at least in part, on the power option agreement, wherein the subsequent power option data specify to decrease one or more minimum power thresholds of the set of minimum power thresholds;

responsive to receiving the subsequent power option data, modifying the performance strategy for the set of computing systems based on a combination of at least the portion of the subsequent power option data and at least one condition in the set of conditions, wherein the modified performance strategy comprises one or more reduced power consumption targets for the set of computing systems; and

providing instructions to the set of computing systems to perform the one or more computational operations based on the modified performance strategy.

[211] In paragraph 343, I disagree with Dr. Ehsani’s allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 17.

[212] In paragraph 344, Dr. Ehsani incorporates his analysis from Section IX.3 of his report. Dr. Ehsani's report does not have a Section IX.3, but I believe he is referring to Section IX.B(1)-(3) of his report, which analyzes certain language of claim 1 that tracks Dr. Ehsani's language in this paragraph. I disagree with Dr. Ehsani's statements at least for the reasons set forth above with respect to claim 1.

A.6.xx.Claim 20

[213] Claim 20 is reproduced below.

A non-transitory computer readable medium having stored therein instructions executable by one or more processors to cause a computing system to perform functions comprising:

monitoring a set of conditions;

receiving power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals;

responsive to receiving the power option data, determining a performance strategy for a set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval; and

providing instructions to the set of computing systems to perform one or more computational operations based on the performance strategy.

[214] In paragraph 345, I disagree with Dr. Ehsani's allegation that Storms/Bearbox was not in the possession of the invention recited in this claim, at least for the reasons noted above with respect to claim 1.

A.7. Conversion and Unjust Enrichment

[215] My opinions, in this report and in my opening report, are not dependent on whether the cause of action in this lawsuit is trade secret misappropriation, which I understand is no longer at issue in this case, or conversion.

[216] In paragraphs 352 and 353, Dr. Ehsani offers his opinion, though, that Mr. Storms conduct is inconsistent with his materials and ideas being considered confidential, and that Mr. Storms had no reasonable expectation of confidentiality for the information he provided to Mr. McNamara. Notably, while Dr. Ehsani makes passing reference to the “standard notice on the bottom of his email” indicating Mr. Storms materials should be treated as confidential, Dr. Ehsani does not acknowledge Mr. McNamara’s testimony that he would not ignore such confidentiality notices, even if the absence of a non-disclosure agreement. Ex. 14, McNamara Depo. at 128-129.

[217] Dr. Ehsani, in paragraph 354, states that Storms ‘method of arbitrage as disclosed in BB0000097 is “different” than Lancium’s Smart Response software, citing two differences: (1) Smart Response considers T&D costs, and (2) Smart Response is implemented directly on the grid. Neither of these “differences” are actually differences or, if they are differences, they are not meaningful. First, Lancium’s accounting for T&D costs is simply accounting for an additional cost variable, layered on top of the arbitrage method Mr. Storms provided to Lancium. It is an uncomplicated, fixed cost that is simply added to the fixed power price. Ex. 14, McNamara Depo. at 80. This additional cost does not change the overall arbitrage method. Second, Smart Responses grid implementation is nothing more than a commercial application of the arbitrage method developed by Mr. Storms. Further, I disagree with Dr. Ehsani’s conclusion that Mr. Storms arbitrage method is somehow limited to “behind the meter.” I further disagree with Dr. Ehsani’s conclusion that a person having ordinary skill in the art “would understand this to mean that the price of power from the power grid is not relevant to Mr. Storms’s purported system.” I further

disagree with Dr. Ehsani's conclusion that use of "node" and not "zone" implies that Mr. Storms' system did not contemplate grid connection or grid power. These conclusion are contradicted in several places, including in BB0000097, which provides "day_ahead LMP" and "real_time_LMP" data. As Dr. Ehsani admits earlier in his report, at paragraph 54, "LMP ... is the offer-based cost of supplying the next MWh of demand at a particular location" and "LMPs can be calculated at node, zone, or hub locations."

[218] Storms' method of arbitrage as depicted in BB0000097 (Ex. 5) (also produced as LANCIUM00014652) matches Mr. McNamara's Excel spreadsheet, LANCIUM00033065 (Ex. 15), which is later described in detail in a Lancium presentation for investors, LANCIUM00035852-35856 (Ex. 16), all of which describe Mr. Storms' arbitrage method. In Storms' spreadsheet, he shows "breakeven mining cost," "mining_rev," "real_time_LMP_rev" and "realized revenue" for a specific date/time which have been calculated using Bitcoin price, a fix power price (day-ahead) and real-time power price (5-minute LMP values), estimated network hash rate, and related parameters. Storms' BB0000097 shows on the column labeled "realized_rev" the arbitrage selection of the more profitable of either mining Bitcoin (mining_rev) or selling the power back at the real-time price (real_time_LMP_rev). The data is structured according to database tables present in various Python modules. As an example, lines 169-179 of "arb_main_AEC.py," (BB_SC00000016, Appendix A.1 of my Initial Report).

[219] Mr. McNamara's "little sheet," LANCIUM00033065, does the same thing. Mr. McNamara's little sheet depicts breakeven mining cost, and associated variables like Bitcoin price, fixed power price, real-time power price, (Ex. 14, McNamara Depo at 77-81), mining revenue ("Computing Revenue"), selling power back revenue ("Grid Power Revenue"), and the arbitrage selection of the more profitable of either mining Bitcoin or selling power back.

[220] Mr. Storms' arbitrage method as depicted in BB0000097 and Mr. McNamara's LANCIUM00033065 is explained again in a presentation given to would-be Lancium investors, LANCIUM00035821 (Ex. 16). The investor presentation calls Mr. Storms' arbitrage method "Economic Turndown," and explains that it "occurs when you sell back your contracted power purchase for a higher price than the installed miner's computation breakeven Ex/MWh." The investor presentation provides a specific example, which includes a fixed power price (\$35), a real-time power price (\$200), a miner breakeven value (\$72) derived from Bitcoin Network value that is derived from the Bitcoin price and hashrate.

III. MY COMMENTS ON THE EXPERT REPORT OF NIKOLAUS BAER.

[221] The following are my comments on the expert report of Nikolaus Baer dated May 6, 2022.

A.1. Mr. Baer's General Statements About The Bearbox Source Code

[222] In paragraphs 3 and 4, Mr. Baer states that in his "that BearBox source code does not demonstrate or support that BearBox conceived of or possessed the inventions claimed in United States Patent No. 10,608,433 (the "'433 patent') and thus, "Storms or BearBox contributed to the conception of the inventions claimed in the '433 patent or disclosed the claimed inventions to Michael McNamara or Lancium." I disagree, largely for the reasons stated in my Initial Report. I also offer the following additional comments regarding Mr. Baer's report

[223] In paragraph 42, Mr. Baer explains that, "The method *delay_on* includes an array of values from 0 to 29 named *relay_list*. The method *delay_on* iterates through this list calling the method *relay_controller* with a *relay_state* argument of True for each of these values. Therefore, the *relay_controller* and *delay_on* methods issue 30 commands over Modbus that would appear to turn on all 30 relays of a PDU." Mr. Baer then states that "this source code does not turn relays on individually, but all at once." I disagree with this conclusion. That the software "issue [sic] 30

commands to on all 30 relays of a PDU” shows a POSA that each relay could be turned on or off individually, regardless of whether all 30 are turned on at the same point in time. As such, a POSA would understand the code to demonstrate a capability to turn on/off subsets of miners associated with the relays.

[224] In paragraph 45, Mr. Baer acknowledges the capability to turn on or off subsets of miners when he explains that the Bearbox system was capable of “powering the relays of the PDUs on or off. To the extent that computers, or Bitcoin miners, could be attached to the PDUs this would only allow for powering the computers on or off...” In addition, I also note that a POSA would appreciate that the relays could be connected to different types of miners (as reflected in the Bearbox source code and other documentation), each of which may have different operational characteristics.

[225] In paragraph 48 and 49, Mr. Baer acknowledges that the Bearbox system was capable of communicating with, and receiving data from, remote power entities, specifically, the Southwest Power Pool.

[226] Similarly, in paragraph 53, Mr. Baer also acknowledges that the Bearbox source code was capable of communicating with other remote entities to receive Bitcoin mining relate information.

[227] In paragraph 56, Mr. Baer wrongly criticizes Storms use of static values for some variables used by the system to, inter alia, determining mining profitability. I disagree with these criticisms. As noted above, software developers often make assumptions about real-world variables when designing a system. In addition, Mr. Baer conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. The various Bearbox

source files use a plurality of different values for these “static” variables, such as the minimum power threshold required to operate a miner(s), which a POSA would understand to mean the system was capable of operating with different types of miners having different power requirements and/or operational characteristics. Moreover, a POSA would understand that operational characteristics such as the minimum power required to operate the system could be customized by turning on subsets of miners (as noted above) and/or utilizing miners having desired operational characteristics so as to meet power availability constraints. Mr. Baer appears to acknowledge this behavior in paragraph 83 of this report when he states, “For example, instead of the individual statically defined values *miner_hashrate* and *kW_load*, lines 13-43 of *miner_amort_breakeven.py* include a collection of statically defined values like *kw_s9* and *cost_s9*. The source code, such as line 187, is defined to only use a single set of these values, so this difference allows a developer to switch between the values in lines 13-43...”

[228] In paragraph 59, Mr. Baer acknowledges that if/when the Bearbox simulation was customized to a real-world environment, “the logic in the method *profit_comp_controller* could turn on computer systems, such as Bitcoin miners, to use available electricity when it is determined that a larger profit can be made from mining Bitcoin than selling the electricity at the LMP prices.”

[229] In paragraph 60, Mr. Baer again acknowledges that the Bearbox source code used multiple commands are used to turn on/off multiple relays, in this case 24 commands for 24 relays.

[230] In paragraph 61, Mr. Baer implies that the Bearbox source code was somehow defective in noting that the software “simulates a realized revenue if the PDUs were actually turned on or off and if electricity was actually being sold, neither of which appear to be actually controlled by this simulation.” I disagree with this implication. Mr. Baer again conflates minute details of

the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept.

A.2. Mr. Baer's Comments On My Analysis Of The Bearbox Source Code

[231] I disagree with Mr. Baer's assessment of my description of the Bearbox source codes as misleading and/or inaccurate.

[232] The majority of Mr. Baer's "complaints" about my analysis of the code stem from his taking issue with the grouping of source code files in the appendix to my Initial Report. Mr. Baer makes this complaint in paragraphs 68-70, 79-80, 82-83, 86, 88 and 90-91 of his report. In these paragraphs, Mr. Baer does not allege that the details of my analysis is incorrect, only the I provide too many summaries and should have grouped more files together. In drafting my reporting, I initially intended to include detailed summaries of each file, but as it became apparent many files operated substantially similarly, I kept the already created summaries and grouped additional files where appropriate. While some detailed summaries may be relatively duplicative of the summaries of other substantial similar files, in my opinion there is nothing misleading about providing additional details about the operation of the source code.

[233] In paragraph 72, Mr. Baer alleges that "There is no concept or implementation of "minimum power thresholds at multiple time periods" in *arb_main_AEC.py*, *denis_logic.py*, or any BearBox source code." Mr. Baer makes similar arguments in paragraphs 74, 78, 81, 84 and 97. I disagree with these statements for the reasons stated in my Initial Report and below in connection with claims.

[234] In paragraph 75, Mr. Baer states, "Dr. McClellan is wrong, therefore, when he states that "the break-even point is based on the previously retrieved and/or provided parameters, **including LMP values** [emphasis added]." Mr. Baer makes similar arguments in paragraphs 78 and 81. This quotation from my Initial Report is a typo, which should have read "the break-even

point **analysis** is based on the previously retrieved and/or provided parameters, including LMP values” as the calculated break-even point is compared against LMP values to determine a performance strategy.

[235] In paragraph 76, Mr. Baer again acknowledges the Bearbox source code’s capability to instruct a plurality of relays (in this case, 24 relays).

[236] In paragraphs 76, Mr. Baer alleges that “to the extent turning all relays of the PDU on or off together could be considered a “performance strategy” it is not a performance strategy as that term is used in the claims of the ‘433 patent and is not a performance strategy to maintain a power consumption target that is equal to or greater than a specified minimum power threshold for a specific time period.” Mr. Baer makes similar statement in paragraph 77, 78 and 97. I disagree with these statements for the reasons stated in my Initial Report and below in connection with claims.

[237] In addition, Mr. Baer also states in paragraph 77, “the method *profit_comp_controller* calls the methods *pdu1_all_off* when the day-ahead LMP or real-time LMP values are greater than the mock BTC mining profit rate, variable *breakeven*, and the methods *pdu1_all_on* when the variable *breakeven* is greater. This is simply reactive to the retrieved *day_ahead_LMP*, *real_time_LMP*, and *breakeven* data.” I disagree. Unlike the reactive system described in the ‘632 Application, the Bearbox source code is forward looking, considering both real-time LMP and day-ahead LMP to provide an analysis encompassing multiple time periods.

[238] In paragraph 89, Mr. Baer notes a discrepancy in the description of the file *DA_LMP_import_AEC.py*. This also is a typo that arose during editing. A corrected summary is attached in the appendix of revised source code summaries attached to this report.

[239] In paragraph 94, Mr. Baer notes the last of three typos in my source code summaries, as I misread the reference greater-than operator (“>”) as a less-than operator (“<”).

A.3. The Bearbox Source Code Demonstrates Storms Possession of the Inventions Recited in the ’433 Patent

[240] In paragraph 99, Mr. Baer states that in his “that BearBox source code does not demonstrate or support that BearBox conceived of or possessed the inventions claimed in United States Patent No. 10,608,433 (the “’433 patent”)” and thus, “Storms or BearBox contributed to the conception of the inventions claimed in the ’433 patent or disclosed the claimed inventions to Michael McNamara or Lancium.” I disagree, largely for the reasons stated in my Initial Report. I also offer the following additional comments regarding Mr. Baer’s report.

Claim 1(c): “receive power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold in the set of minimum power thresholds is associated with a time interval in the set of time intervals”

[241] In paragraph 101, Mr. Baer indicates that his analysis of this limitation is limited to the source code only, and not the entirety of the evidence supporting Storms’ conception.

[242] In paragraph 102, Mr. Baer alleges that “there is no BearBox source code that receives or evaluates data specifying power thresholds, let alone minimum power thresholds, for a computing system or set of computing systems. As discussed above, the BearBox source code simulates Bitcoin mining profits and only evaluates the profitability of mining Bitcoin or selling power at day-ahead or real-time LMP prices based on the data retrieved by the source code, which does not include any data specifying minimum power thresholds. Furthermore, to the extent the BearBox source code considers power consumption in its profitability simulation, it uses a statically defined power consumption value for *kW_load* that is fixed and not variable.” Mr. Baer again conflates minute details of the simulation Storm built with the full breadth of the capabilities

of which the system both described in the various documents and embodied in the simulation serve as proof of concept.

[243] Also, as I explained above, in my experience writing code and simulations, a system designer will typically make many assumptions about real-world variables in order to test other aspects of the system. For example, in simulating a process that utilizes energy, one may assume an endless supply of power so that other aspects, such as logic simulating a real-time profitability determination and the like, can be tested more specifically. As the software is eventually released into a real-world application, those assumed variables may be updated in the software to account for the real-world environment in which the software operates. Based on my experience writing software, it is my opinion that a POSA would understand that Mr. Storms' simulation assumed an unlimited amount of power to test his profitability determination algorithm, and that (1) any real-world system will necessarily need to account for power availability and (2) replacing Mr. Storms' assumed power availability with data from an ISO or QSE was a well-known, conventional capability that would have required merely ordinary skill to implement.

[244] In paragraph 104, Mr. Baer acknowledges that "The BearBox source code, such as the *main* method of *arb_main_AEC.py*, *EXELON4.py*, *denis_logic.py*, and *miner_amort_breakeven.py*, does iterate every 300 seconds, or 5 minutes, but this is a statically defined operating cycle and is not specified by data received by the source code." As a result, when a decision is made to turn on a miner(s) by the Bearbox software, the system operates at the energy level reflected in the *kW_load* variable for a 5-minute interval.

[245] In paragraph 105, Mr. Baer again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept.

Claim 1(d): responsive to receiving the power option data, determine a performance strategy for the set of computing systems based on a combination of at least a portion of the power option data and at least one condition in the set of conditions, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval in the set of time intervals, wherein each power consumption target is equal to or greater than the minimum power threshold associated with each time interval”

[246] In paragraphs 106 and 107, Mr. Baer indicates that his analysis of this limitation is limited to the source code only, and not the entirety of the evidence supporting Storms’ conception.

[247] In paragraph 109, Mr. Baer again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. For example, Mr. Baer states that “The BearBox source code does not have any capability or functionality to set a target power consumption level, let alone to do so based on minimum power thresholds for specific time intervals that are specified by data received by the source code.” I disagree, as at least in paragraphs 45 and 83 of his report, Mr. Baer acknowledges that the system was capable of operating with different types of miners having different power requirements and/or operational characteristics, as noted above.

[248] In paragraph 110, Mr. Baer manufactures a new limitation into the claim, faulting the Bearbox source code as not “having any functionality or capability for measuring the rate of computation and possibly relying on that measured rate of computation (and thus power consumption).” First, claim 1 does not recite a requirement for measuring a rate of computation. Second, Mr. Baer contradicts himself in the next paragraph, paragraph 111, in which acknowledges that “the file *cgminer_sqlite_test.py* requests and can receive data regarding the 5-second and 5-minute hash rate of a Bitcoin miner.”

[249] In paragraph 112, Mr. Baer states “None of the 11 identified source code files determine a performance strategy comprising a power consumption target for any time intervals where the power consumption target is equal to or greater than a minimum power threshold for a specific time interval and that is received by the system.” I disagree for the reasons stated in my Initial Report. In addition, as noted above, in paragraph 104, Mr. Baer acknowledges that the system operates on a five minute interval. As a result, when a decision is made to turn on a miner(s) by the Bearbox software, the system operates at the energy level reflected in the *kW_load* variable for a 5-minute interval.

Claim 1(e): “provide instructions to the set of computing systems to perform one or more computational operations based on the performance strategy”

[250] In paragraphs 113 and 114, Mr. Baer indicates that his analysis of this limitation is limited to the source code only, and not the entirety of the evidence supporting Storms’ conception.

[251] In paragraph 115, Mr. Baer restates his arguments relating to element 1(d), which I disagree with for the reasons states above.

[252] In paragraph 116, Mr. Baer restates his arguments set forth in paragraph 102. I disagree with his analysis for the reasons set forth above in my response to paragraph 102.

[253] In paragraph 117, Mr. Baer misleadingly cites Mr. Storms testimony in conflating minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. Mr. Storms actual testimony stated that he did conceive of the relevant functionality:

Q. Had you written code that would tell the miners that they must maintain five megawatts of load and could not drop below that regardless of what the price of power was?

A. Yeah, so the system's definitely capable of doing that. I would say that the miners themselves aren't instructed to maintain a certain amount of load. The total build is, right.

Q. But had you written -- had you written code to ensure that the total build would, in fact, maintain that amount of load?

A. Yeah, I definitely -- I conceived of that at the time as it relates to, you know, buying power from various entities, and the system's capable of doing that because of how I architected it...

Ex. 7, Storms Dep. at 171:12-172:2

[254] In addition, as noted above, in paragraph 104, Mr. Baer acknowledges that the system operates on a five minute interval. As a result, when a decision is made to turn on a miner(s) by the Bearbox software, the system operates at the energy level reflected in the *kW_load* variable for a 5-minute interval.

[255] In paragraph 119, Mr. Baer again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept in alleging that the Bearbox source code did not allow for turning individual miners on and/or off. I disagree for the reasons stated above.

[256] In paragraph 120, Mr. Baer states “to the extent turning all relays of connected PDUs on or off together (and thus turning all connected computers, such as Bitcoin miners on or off together) could be considered a “performance strategy” it is not a performance strategy as that term is used in the claims of the ‘433 patent and is not a performance strategy to maintain a power consumption target that is equal to or greater than a specified minimum power threshold for a specific time period.” Mr. Baer again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents

and embodied in the simulation serve as proof of concept. I also disagree at least for the reasons stated above about the Bearbox source codes ability to individually address miners.

[257] In paragraph 121, Mr. Baer restates his arguments set forth in paragraph 105. I disagree with his analysis for the reasons set forth above in my response to paragraph 105.

A.3.i. Claims 2-11, 13-17 and 19

[258] For claims 2-11, 13-17 and 19, Mr. Baer only disagrees with my analysis to the extent each claim depends from claim 1 or recites limitations that are essential identical to those recited in claim 1. I disagree with his analysis of these claims for the reasons set forth above.

A.3.ii. Claim 12

[259] In paragraph 132, Mr. Baer disagrees with my analysis to the extent it depends from claim 1 or recites limitations that are essential identical to those in claim 1. I disagree with his analysis of these claims for the reasons set forth above.

[260] In paragraph 133 and 134, Mr. Baer indicates that his analysis of this limitation is limited to the source code only, and not the entirety of the evidence supporting Storms' conception. In addition, Mr. Baer again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. Based on my experience writing software, it is my opinion that a POSA would understand that Mr. Storms' simulation assumed an unlimited amount of power to test his profitability determination algorithm, and that (1) any real-world system will necessarily need to account for power availability and (2) replacing Mr. Storms' assumed power availability with data from an ISO or QSE was a well-known, conventional capability that would have required merely ordinary skill to implement.

A.3.iii. Claim 18

[261] In paragraph 141, Mr. Baer disagrees with my analysis to the extent it depends from claim 1. I disagree with his analysis of these claims for the reasons set forth above.

[262] In paragraph 142 and 143, Mr. Baer again conflates minute details of the simulation Storm built with the full breadth of the capabilities of which the system both described in the various documents and embodied in the simulation serve as proof of concept. I disagree, as at least in paragraphs 45 and 83 of his report, Mr. Baer acknowledges that the system was capable of operating with different types of miners having different power requirements and/or operational characteristics, as noted above.

IV. CONCLUSION


[263] I reserve the right to supplement this statement and/or to address any testimony or other evidence offered by Lancium, including in response to this statement.

I. APPENDIX – REVISED MODULE DESCRIPTION

[A.4] DA_LMP_import_AEC.py [BB_SC-026]

Same as A.3 but without [/18] logic that solves for date discrepancies in the CSV file name.

Dated: May 20, 2022


Dr. Stan McClellan